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ABSTRACT

Children's books can be used to expand knowledge and increase interest in the content areas. The social understanding that first and second grade students gain from a unit on family relationships and friendships will be richer if literature is an integral part of the instruction. Titles for such a unit might include "Charlotte's Web," by E.B. White, or Charlotte Zolotow's "Big Sister and Little Sister." For third grade students, books such as "Here Come the Dolphins," by Alice Goudy, or "The Frightened Hare," by Franklin Fussell can be used in a unit on the life cycles of animals. An excellent reference source for this science unit is the "Science and Children" journal, which contains annotated references of children's books on science. A unit on oceanography was used in a fourth grade classroom to evaluate the effectiveness of literature in a content area. After all students completed a unit based on the science textbook, the experimental group participated in literature-based supplemental activities, including slide-tape presentations based on the literature, developing murals, and participating in a panel discussion. The results indicated that just having access to the books, as did the control students, is not enough. The study underscored the value of using both fiction and nonfiction materials in a structured unit and planning activities that develop students' interest in books. (HTH)

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Books Make Social Studies and Science Come Alive

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CS208 166

Books Make Social Studies
and Science Come Alive

Children's books can be used to expand knowledge in content areas and they can also increase interest. This paper will consider the interest connection between children's books and the content areas of science and social studies by suggesting literature use in three different units for various elementary grade levels. For the first and second grades, a social studies unit about children's relationships with others, a science unit on life cycles of animals for the third grade, and another science unit on oceanography for grades four and five will be described.

First/Second Grade Unit

First and second graders are concerned with their relationships with others. A unit that investigates these relationships could start with the family and then branch out from there. A good book to introduce family relationships is Whose Mouse Are You by Robert Kraus. This poor mouse seems to have no family at all - his mother has been eaten by a cat, father caught in a trap, sister has gone away, and he has no brother. But he gets them all back and a new baby brother too. The author answers the question "whose mouse are you" with "mothers-fathers-sisters-brothers all of whom love you so much", bringing out love as the basic relationship in the family.

In Big Sister and Little Sister, Zolotow zeros in on the particular relationships between siblings that can cause so much friction as well as so much growth within family units. Joan Lexau looks at the development of responsibilities by a sibling in Finders Keepers, Losers Weepers. A small boy has to take care of his younger sister with much disgust and best of all it is a book that beginning readers can read by themselves.

Two additional books by Charlotte Zolotow could be used in two different ways in a unit on family relationships. When I Have a Son and When I Have a Little Girl state the child's dream of independence from the family's demands and restraints. They could be used as the basis for male and female group language experience books with each child contributing a page of what he or she will or won't do when grown up. Zolotow is a major author in this field so a unit could include a section on books by her. Students can keep track of all the books by this author used in the unit and by this action begin to build an awareness of particular authors.

Louisa Shotwell investigates the relationship of a child and her grandmother in Magdalena. In many families today the grandparents have primary child care responsibilities with parents working or away. Another reason to consider this relationship within a family unit is that some children are deprived of it. Due to family mobility and divorce many children do not have a meaningful relationship with grandparents. Divorce is a social reality which many young children face today and literature can help them deal with it. There are many books available such as Daddy by Jeannette Caines

that can be used with primary children. Big Blue Island by Wilson Gage deals with an unusual family make up. An orphaned boy goes to live with his great-uncle. The great-uncle lives on an island which the boy at first thinks of as a prison. This is a difficult book for first-second graders, so the teacher would need to read it to the class and lead a discussion about it. At this point in the unit the children could develop a one or two generation family tree to show their family and to consider the variety of family groupings there are.

Learning to get along with peers is a developmental task that begins to concern primary grade children. A unit on relationships could branch out from the family to explore friendships. Literature read by the teacher and then discussed can help children understand the real meaning of friendship. Christopher Robin states this in "Us Two" from Now We Are Six by A. A. Milne.

Is there a better book on friendship than Charlotte's Web by E. B. White? When Wilbur first meets Charlotte he is feeling very lonely and depressed. She offers the friendship he wants, but Wilbur has doubts about her character. Eventually he learns that she is a kind and loyal friend. Miriam Cohen also discusses the same doubts and fears that Wilbur had in Will I Have a Friend, a story of the first day of school.

The Hating Book by Charlotte Zolotow describes one girl's experience when her best friend turns away from her. She responds with "I hate her," but her mother encourages her to ask why. Eventually she does and discovers it was all a

misunderstanding and they're friends again! Zolotow also deals with the pain and jealousy of a broken friendship in The New Friend, a book suitable for older primary students.

Dandelion by Don Freeman helps children understand some of the requirements to keep a friendship intact. It is the story of a lion who tries to impress his friend. He gets so fixed up with a shampoo, manicure, a curled mane and new clothes that his friend doesn't recognize him and turns him away. He finally learns to be "just plain me", not a "stylish dandy", and his friendship is valued once again. The same lesson is emphasized in The Smallest Boy in the Class by Jerrold Beim. The small boy tells tall tales and is disliked by his classmates. He eventually learns to share and avoid exaggerations and gains friends.

Books such as these serve to enrich a unit on relationships of families and friends. The social development and understandings gained from the unit will be stronger and richer if literature is an integral part of the instruction.

Third Grade Unit

The problem with using books to spark interest in a unit on life cycles of animals is to select what can realistically be used in a given time frame. There are just so many interesting and beautiful books available.

For example, consider a section on migration - a natural for map work. The Moon of the Monarch Butterflies by Jean Craighead George provides the opportunity to initiate many activities. The major flyways are mentioned as well as the route and daily progress of one butterfly. These could be transferred to maps

and related to local distances familiar to the children. Other resources dealing with migration of butterflies, swans, whales, and geese are included in the bibliography.

Insects are naturals for study of life cycles because their changes are so dramatic. One of the best books dealing with this is Sphinx: The Story of a Caterpillar by Robert M. McClung. This book, originally written in 1949, was revised with new illustrations in 1980. It tells the story of Sphinx, one of four eggs that hatch and the only one to survive to become a sphinx moth. An amusing companion book to use with it is Very Hungry Caterpillar by Eric Carle. It depicts the life cycle of egg - caterpillar - cocoon - butterfly and shows what the caterpillar eats (even with some holes on the pages it has eaten). Jumping Bean is sure to interest students as author Edna Millar explains the life cycle and why it jumps. A live jumping bean presented for questioning before reading the book. would generate even more interest!

An important factor to consider when selecting books to use with a science unit is the extent to which animals are humanized. In Here Come the Dolphins, Alice Goudy illustrates how a quality author interests the children but does not distort the animals' life by humanizing them, although they are given names. A baby dolphin has just been born and the reader is asked to imagine that the seagulls are "talking" about the event in their cries. The gulls notice the baby coming to the surface for his first breath, and the author expresses relief but the emotion is not attributed to the birds. The first night of the

dolphin's life, tiger sharks are nearby and the dolphins swim protectively close to him. Grayback and her companions stay close beside the baby. It is well that they do because, as night comes on, the two shadowy forms of the tiger sharks circle closer and closer to them.

The struggle for survival is an important aspect of animal life. (Only one caterpillar survived, the dolphins have enemies nearby etc.) It is an area that can be over-sentimentalized in books for children. The Frightened Hare by Franklin Russell avoids this while emphasizing the constant fear in a hare's life. A very young hare strays from the nest and is chased by a weasel. His terror is presented honestly and the speed it triggers saves him.

In the poem "The Snare" by James Stephens, a rabbit is caught in a snare. Emotion is implied and attributed to a human rather than the hare as the narrator searches for it. The rhythm and content of the poem give a sense of hurrying and of impending tragedy. The rabbit projects pain and fear while the narrator shows grief.

Other creative activities could be used along with literatue in this science unit. For example, poems read and written with haiku (3 line, 5-7-5 syllables) would be a good format for the many changes of a life cycle. Irmengarde Eberle presents photos and brief text in A Chipmunk Lives Here and A Fox Lives Here. Children could write their own captions for the photos. Factual information is presented well in The Story of Ants by Dorothy Shuttlesworth. This is difficult reading for third graders

but it has excellent diagram type illustrations. Children would like to make their own diagrams from these clear models. Writing biographies of specific animals is another appropriate creative activity to rise from this unit.

Finally here is a game that could be continued throughout the unit, based on What's Hatching Out of That Egg? by Patricia Lauber. This book presents photos and narrative. The student is to try to guess the animal as more and more clues are given. Many different animals are included - insects, reptiles, amphibians, fish, birds. It is a very motivating format to help children compare the life cycles of various animals.

A major reference source is Science and Children. Every issue of this excellent journal contains some new references of children's books in science. They are annotated and the approximate reading range is given. Spring issues also contain an annual review of literature resources.

Fourth/Fifth Grade Unit

This is a unit on oceanography used in a classroom research project to evaluate the effectiveness of literature in a content area. It was a fourth grade unit directed toward low socioeconomic level youngsters. The home background of the children did not offer extensive activities, materials, or discussion to develop or expand interest or understandings in science. Two fourth grade classes at the same school with similar ability ranges took part. Both groups completed the

the unit which was based on the science textbook. In addition the experimental group took part in five literature based supplemental activities. These were as follows:

1. Slide-tape presentations were made from the first chapters of books relating to the ocean.
2. Each student wrote a career notebook. These consisted of summaries of five available careers in oceanography and were based on information from non-fiction sources provided in the classroom.
3. In small groups the students developed murals to depict their understanding of oceanography.
4. Each student wrote an ABC book on oceanography. This activity was introduced by an investigation of ABC books and used the classroom reference library on oceanography.
5. A panel discussion on conservation of the ecology of the oceans was held as a culminating activity. Ten students were selected to present pro and con positions. Other students took part in the discussion and questioned the panel. Class time was given for preparation for the panel.

The control group completed the textbook-based unit, had access to the literature and reference books, and participated in the culmination panel discussion. Twenty minutes per day

allowed for use of the additional reading materials, but no specific activities were included using the books.

Three measurement instruments were developed to compare the groups and the experimental group scored higher in each instance. There was a factual test based on the textbook unit, a measure of understanding of the fiction books, and a checklist of use of the available books and participation in the culmination discussion.

This study underscored the value of using both fiction and non-ficton materials with a science unit. It also emphasized the importance of planning activities that drew students into the use of the books. Just having the books available was not enough.

These unit descriptions are offered as suggestions to strengthen the interest connection between books and the content areas and to increase the use of literature in the classroom.

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